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(FILE 'USPAT' ENTERED AT 09:23:33 ON 19 APR 1999)
L1      27851 SEA (LOCAL OR REFERENCE) (2A) (OSCILLAT? OR FREQUENC?)
L2      94087 SEA (MIX### OR COMBIN###) (3A) (DUAL OR TWO OR MULTIPL? OR PL
        URAL?)
L3      1187437 SEA (RECEIV? OR TRANSCEIV? OR RADIOTELEPHONE OR RADIO-TELEPHO
        NE OR TELEPHONE OR PHONE)
L4      501 SEA L1 (6A) L2
L5      286 SEA L4 (P) L3
L6      116 SEA L5 AND 455/CLAS
L7      89159 SEA (MIX### OR COMBIN###) (3A) (DUAL OR TWO OR MULTIPLE OR PL
        URAL?)
L8      356 SEA L1 (6A) L7
L9      211 SEA L8 (P) L3
L10     88 SEA L9 AND 455/CLAS
L11     129 SEA L7 (5A) (INTERMEDIATE FREQUENC####)
L12     19 SEA L1 (6A) L11
        SET LINELENGTH 78

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FILE USPAT

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*           W E L C O M E   T O   T H E           *
*           U . S .   P A T E N T   T E X T   F I L E           *
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=> file wpids japio inpadoc

=> s (local or reference) (2a) (oscillat? or frequenc?)

2 FILES SEARCHED...

L1 28430 (LOCAL OR REFERENCE) (2A) (OSCILLAT? OR FREQUENC?)

=> s (mix### or combin###) (3a) (dual or two or multiple or plural?)

1 FILES SEARCHED...

L2 36963 (MIX### OR COMBIN###) (3A) (DUAL OR TWO OR MULTIPLE OR PLURAL?)

=> s l1 (6a) l2

L3 220 L1 (6A) L2

=> s (receiv? or transceiv? or radiotelephone or radio-telephone or phone or telephone)

1 FILES SEARCHED...

L4 1387436 (RECEIV? OR TRANSCEIV? OR RADIOTELEPHONE OR RADIO-TELEPHONE OR PHONE OR TELEPHONE)

=> s l3 (18a) l4

1 FILES SEARCHED...

L5 88 L3 (18A) L4

=> s (intermediate frequenc?) and l5

L6 28 (INTERMEDIATE FREQUENC?) AND L5

L7 ANSWER 1 OF 28 WPIDS COPYRIGHT 1999 DERWENT INFORMATION LTD

AN 99-098564 [09] WPIDS

DNN N99-071852

TI Lock up time reduction device for frequency synthesiser for TDD system - operates duplex system with first synthesiser generating ***reference***
frequency for ***receiver*** with ***two***

mixers

, which uses input frequency and generates two ***intermediate***
frequencies and third frequency for transmission.

DC U23 U25 W01 W02

IN OH, T

PA (SMSU) SAMSUNG ELECTRONICS CO LTD

CYC 1

PI GB 2328095 A 990210 (9909)* 24 pp

ADT GB 2328095 A GB 98-10567 980518

PRAI KR 97-18906 970516

AB GB 2328095 A UPAB: 990302

The device has a second frequency synthesiser for generating first and third ***intermediate*** ***frequencies*** (IF) for input to the first and third mixers, in response to a channel selection signal for setting the transmission and reception modes. The second synthesiser comprises a voltage controlled oscillator (VCO) for generating a frequency in response to a charge pump voltage input, and a loop filter for shaping the charge pump voltage applied to the VCO.

The synthesiser also has a phase locked loop (PLL) for comparing the reference frequency with the VCO output, to generate a voltage for output

to the VCO, according to a phase difference between the reference voltage and the frequency output from the VCO. There is also a band switching controller for receiving an inverse channel selection signal to maintain an input voltage of the VCO.

USE - For cordless telephone.

ADVANTAGE - Reduced lock up time during frequency switching.

Dwg.7/10

L7 ANSWER 4 OF 28 WPIDS COPYRIGHT 1999 DERWENT INFORMATION LTD

AN 98-039771 [04] WPIDS

DNN N98-032243

TI FM receiver with power consumption reduction function - includes power supply whose terminal is connected in series to first circuit group, that includes local oscillator, and second circuit group containing RF circuit, mixer, and two ***intermediate*** ***frequency*** amplifiers.

DC U24 W02

PA (SONY) SONY CORP

CYC 1

PI JP 09294087 A 971111 (9804)* 7 pp

ADT JP 09294087 A JP 96-105685 960425

PRAI JP 96-105685 960425

AB JP09294087 A UPAB: 980202

The FM receiver includes an RF circuit (2) which receives an input signal. The oscillation of a predetermined frequency signal is performed by a local oscillator (3). The oscillated frequency signal from the local oscillator is combined to the output of the RF circuit by a mixer (4). The ***intermediate*** ***frequency*** signal from the mixer is amplified by a pair of ***intermediate*** ***frequency*** amplifiers (5,6).

The FM receiver circuit is divided into two circuit groups. The first circuit group contains the local oscillator, while the second circuit group includes the RF circuit, the mixer, and the two ***intermediate*** ***frequency*** amplifiers. The terminal (7) of a power supply is connected in series to the circuit in the first and second circuit groups.

ADVANTAGE - Power consumption can be reduced efficiently after securing reception characteristic satisfactorily, thus lengthening service life of battery. Enables good balance of power supply.

Dwg.1/4

L7 ANSWER 12 OF 28 WPIDS COPYRIGHT 1999 DERWENT INFORMATION LTD

AN 94-150603 [18] WPIDS

DNN N94-118238

TI Integrated phase locked loop local oscillator partic. for global positioning system receiver - has single RF amplifier, VCO operating at first local oscillator frequency, dividing counter deriving second LO signal, and two mixers generating respective IF signals.

DC U23 W02 W06

IN LAU, C Y; PARKER, R A; WAGNER, G L

PA (TRIM-N) TRIMBLE NAVIGATION LTD

CYC 1

PI US 5311149 A 940510 (9418)* 7 pp

ADT US 5311149 A US 93-30678 930312

PRAI US 93-30678 930312

AB US 5311149 A UPAB: 940622

The dual-conversion super heterodyne receiver integrated circuit device, has a radio frequency (RF) amplifier with a selector for receiving a two

carrier signals having frequencies (F1,F2). A

voltage controlled oscillator (VCO) provides a first local oscillator (LO1) signal having a frequency of approximately $(F1+F2)/2$. A first mixer has inputs connected to respective outputs of the RF amplifier and the VCO, and an output for a first ***intermediate*** ***frequency*** signal.

A frequency divider is connected to an output of the VCO in a phase locked loop configuration, and derives a second local oscillator (LO2) signal from LO1, such that LO1/LO2 equals 'N.5', where 'N' is a positive integer. A second mixer has inputs derived from respective outputs of the first mixer and the frequency divider, and an output for a second IF signal. The frequency F1 is approximately equal to 1575.42 MHz, and the frequency F2 is approximately equal to 1227.6 MHz. The two local oscillator signals (LO1,LO2) are approximately equal to 1401.6 MHz, and 186.88 MHz, respectively. The positive integer 'N' is seven.

USE/ADVANTAGE - Dual-conversion down-converter changing two radio frequencies to same IF. Integrates RF and IF functions. Minimum circuitry. Dwg.1/4

L7 ANSWER 16 OF 28 WPIDS COPYRIGHT 1999 DERWENT INFORMATION LTD

AN 91-081045 [12] WPIDS

DNN N91-062588

TI ***Receiver*** circuit for RF modem - includes ***two***
mixers, single ***local*** ***oscillator***,
frequency doubler, bandpass filter, demodulator and signal
comparator.

DC W01 W02

IN JAGGER, C E

PA (FORT-N) FORTRAN TRAFFIC SYS

CYC 1

PI CA 1280203 C 910212 (9112)*

ADT CA 1280203 C CA 86-514157 860718

PRAI CA 86-514157 860718

AB CA 1280203 C UPAB: 930928

The circuit includes ***two*** ***mixers*** and a single
local ***oscillator*** operating at a frequency which is

about

one third of the difference between the frequency of a ***received***
radio frequency signal and a second ***intermediate***
frequency. A double circuit serves for doubling the frequency of
the oscillator and applying the doubled frequency to the first mixer to
mix with the received signal and to provide as a difference signal and a
first ***intermediate*** ***frequency*** signal. The second mixer
is connected to receive as first ***intermediate*** ***frequency***
signal and a signal from the oscillator to provide as a difference signal
the second ***intermediate*** ***frequency*** signal.

A bandpass filter has an input connected to the second mixer for
receiving the second ***intermediate*** ***frequency*** signal and
an output providing a filtered second ***intermediate***

frequency signal. A demodulator is connected to the output of the
bandpass filter for receiving as filtered second ***intermediate***

frequency signal and providing a demodulated signal. A comparator
receives the demodulated signal from the demodulator compares the
demodulated signal with a reference, and provides a data signal
representing the data signal modulated on the received signal.

USE/ADVANTAGE - For connection to cable network. Reduces interfering

signals for modern introduced into cable.

1/1

L7 ANSWER 18 OF 28 WPIDS COPYRIGHT 1999 DERWENT INFORMATION LTD

AN 90-001148 [01] WPIDS

DNN N90-000841

TI Local oscillator feedthrough cancellation circuit for transmitter IC - simultaneously forms two composite signals having both IF and LO feedthrough components, to eliminate LO feedthrough to output signal.

DC U23 W02

IN WHITE, C R

PA (HUGA) HUGHES AIRCRAFT CO

CYC 15

PI EP 347761 A 891227 (9001)* EN 10 pp

R: CH DE ES FR GB IT LI NL SE

JP 02065429 A 900306 (9015)

AU 8935902 A 891221 (9016)

US 5001773 A 910319 (9114)

KR 9307286 B1 930804 (9431)

CA 1333193 C 941122 (9502)

IL 90125 A 941229 (9513)

ADT EP 347761 A EP 89-110919 890616; US 5001773 A US 88-209241 880620; KR 9307286 B1 KR 89-8410 890619; CA 1333193 C CA 89-598311 890501; IL 90125 A IL 89-90125 890430

PRAI US 88-209241 880620

AB EP 347761 A UPAB: 930928

The circuit includes ***two*** ***mixers*** (15,17) for ***receiving*** ***local*** ***oscillator*** (LO) and ***intermediate*** ***frequency*** (IF) signals. The mixers (15,17) are operable to upconvert the ***intermediate*** ***frequency*** (IF) signal while passing an attenuated and phase shifted portion of the local oscillator (LO) signal. Bias regulation circuitry (21,23) is provided for regulating the attenuation and phase shift of the local oscillator (LO) signal portion passed by at least one of the mixers (15,17) such that the local oscillator (LO) signal portions are combinable to cancel each other.

A coupler circuit (19) is provided for combining the mixer outputs such that the local oscillator (LO) signal portions are cancelled and an upconverted ***intermediate*** ***frequency*** (IF) signal remains. The bias regulation circuitry (21,23) may be self-correcting to optimise cancellation of the local oscillator (LO) signal portions.

ADVANTAGE - LO signal feed through is reduced by 60-70 dB.

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